

## COURSES TAUGHT/DEVELOPED

ME 371	Kinematics of Machinery, (at <i>UAB</i> )
ME 372	Dynamics of Machinery, (at <i>UAB</i> )
ME 410	Instrumentation & Control, (at <i>UAB</i> )
ME 485	Design Synthesis, (at <i>UAB</i> )
ME 570	Computer-aided Kinematic Analysis, (at <i>UAB</i> ) ..... developed
ME 571	Computer-aided Dynamic Analysis, (at <i>UAB</i> ) ..... developed
ME 590	Analysis & Design of Robotic Manipulators (at <i>UAB</i> )...developed
ME 201	Dynamics, (at <i>KFUPM</i> )
ME 309	Mechanics of Machines, (at <i>KFUPM</i> )
ME 413	System Dynamics & Control, (at <i>KFUPM</i> )
ME 428	Structures of Flight Vehicles, (at <i>KFUPM</i> )
ME 482	Mecanical Vibrations, (at <i>KFUPM</i> )
ME 484	Acoustics, (at <i>KFUPM</i> )
ME 542	Elasticity, (at <i>KFUPM</i> )
ME 562	Vibration Measurement & Analysis, (at <i>KFUPM</i> )
ME 558	Rotordynamics, (at <i>KFUPM</i> ) ..... developed

## SHORT COURSES TAUGHT/DEVELOPED

- Developed, coordinated and taught a short course in **Balancing and Diagnostics of Rotating Machinery**, which has been successfully offered for the last 16 years for engineers and particiapnts from industry in the Gulf region.

## LABORATORY DEVELOPMENT

Director of the ME Dynamics Laboratory at KFUPM for the last 18 years; upgraded the Lab by acquiring and installing a large array of state-of-the-art laboratory apparatus and setups to serve in teaching system dynamics, vibrations and mechanics of machines courses. The dynamics Lab is currently a well-equipped laboratory with excellent capabilities, which exceed that of many similar labs in top universities in the west. In addition, the lab also includes equipment that support both teaching and research; e.g. a number of LabView systems, B&K 8-channel PULSE system with software licenses, Laser Vibrometer, exciters, *Vishay* 10-channel strain-gage scanner with *StrainSmart-6000* software, and a wide array of accelerometers, transducers, amplifiers, controllers, and digital oscilloscopes.

## **SPECIALIZED TRAINING**

Certified PULSE Modal Analysis training courses; PULSE with FFT & CPB Software and Modal Analysis Course, Brüel & Kjær, Nærum, Denmark, from 2-6 October, 2006.

## **CURRICULAR DEVELOPMENT & ACCREDITATION**

Served as a Member of ME ABET Assessment Team, Chairman of ME Curriculum Development Committee, Member of ME ABET Committee, Member of University Committee on Infusing Personal Skills in Educational Programs.

## **THESES SUPERVISION**

### ***(i)- Dissertation Advisor***

#### **Ph.D. Theses: (Advisor: Dr. Y.A. Khulief)**

1. "Dynamic Analysis of Multibody Rotor-Bearing Systems with Cracked Rotor Shaft", M. A. Mohiuddin, **Ph.D. Dissertation**, Department of Mechanical Engineering, *King Fahd University of Petroleum & Minerals*, June 1997.
2. "Dynamic Modeling and Analysis of Elastic Beams with Prismatic and Revolute Joints", B. Al-Bedoor, **Ph.D. Dissertation**, Department of Mechanical Engineering, *King Fahd University of Petroleum & Minerals*, October 1995. Dr. Al-Bedoor is the first Ph.D. graduate from a Doctorate Program in Mechanical Engineering offered in the Kingdom of Saudi Arabia.

#### **M.Sc. Theses: (Advisor: Dr. Y.A. Khulief)**

1. "Finite Element Analysis of Stick-Slip Vibrations in Drillstrings", S. Bashmal, **M.S. Thesis**, Department of Mechanical Engineering, *King Fahd University of Petroleum & Minerals*, April 2005.
2. "Finite Element Dynamic Modeling of Drillstrings" H. Al-Naser, **M.S. Thesis**, Department of Mechanical Engineering, *King Fahd University of Petroleum & Minerals*, May 2002.
3. "Coupled Bending-Torsion Dynamic Analysis of Rotating Shafts", A. Mohiuddin, **M.S. Thesis**, Department of Mechanical Engineering, *King Fahd University of Petroleum & Minerals*, Sept.1992.
4. "Vibration Frequencies of Rotating Tapered Beam including Rotary Inertia and Shear Deformation", A. Bazoune, **M.S. Thesis**, Department of Mechanical Engineering, *King Fahd University of Petroleum & Minerals*, June 1990.
5. "Transient Dynamics of Flexible Rotating Beams with Base Motion Excitation", H.S. Chiu, **M.S. Thesis**, Department of Mechanical Engineering, *University of Alabama at Birmingham*, Birmingham, AL, USA, June 1988.

6. " Lead-Lag Vibrational Frequencies of Rotating Beams", Lajoon Yi, **M.S. Project**, Department of Mechanical Engineering, *University of Alabama at Birmingham*, Birmingham, AL, USA, June 1987.
7. " Dynamic Analysis of Semi-Active Control of Vibrations in long road Vehicles", S.P. Sun, **M.S. Thesis**, Department of Mechanical Engineering, *University of Alabama at Birmingham*, Birmingham, AL, USA, June 1987.

**(ii)- External Examiner & Dissertation Committee Chairman**

1. Analysis and Synthesis of Dwell Mechanisms , Salem Al-Harthy, **M.S. Thesis**, Faculty of Engineering, *King Abdulaziz University*, Jeddah, Saudi Arabia, March 1997.
2. Integration of Photoelastic Digital Image with Boundary Element Method for Applications in Solid Mechanics , Omar Al-Kabli, **M.S. Thesis**, Faculty of Engineering, *King Abdulaziz University*, Jeddah, Saudi Arabia, June 1997.